

Claims:

1. A communication device comprising at least one processor to run at
 5 least two operating systems, wherein the at least two operating
 systems include

 - a first operating system comprising a first group of threads,
 and
 - a second operating system comprising a second group of
 10 threads,

the communication device further comprising at least one user
 interface, mobile station functions and data processing functions, and
 that of said at least two operating systems the first operating system
 relates to running of mobile station functions, and the second operating
 15 system relates to running of data processing functions.
2. A communication device according to claim 1 including

 - means for generating an interrupt to said at least one processor,
 - means for selecting a thread from said first group of threads and
 20 second group of threads to execute as a result of said interrupt and
 as defined by any applications, said means for selecting including at
 least one at least partly common interrupt handler for said at least
 two operating systems, and
 - means for transmitting interrupt data to the operating system from
 25 which the thread was selected including said thread to execute.
3. A communication device comprising at least one processor to run at
 least two operating systems, wherein the at least two operating
 systems include

 - 30 - a first operating system comprising a first group of threads,
 and
 - a second operating system comprising a second group of
 threads,

the communication device further comprising at least a first user
 35 interface, a second user interface, mobile station functions and data
 processing functions, and that of said at least two operating systems
 the first operating system relates to running of mobile station functions,

and the second operating system relates to running of data processing functions.

5 4. A communication device according to claim 3, wherein said first user interface relates at least partly to said mobile station functions, and said second user interface relates at least partly to said data processing functions.

10 5. A communication device according to claim 4, wherein said first user interface is a phone interface, and said second user interface is a personal digital assistant interface.

15 6. A communication device according to claim 3 including means for moving from the execution of the first operating system to the execution of the second operating system, when no thread of the first operating system is running.

20 7. A communication device according to claim 3 including means for moving from the execution of the second operating system to run the first operating system when an interrupt to the processor affects the running of at least one thread under the first operating system.

25 8. A communication device according to claim 3, wherein at least the first operating system is a real time operating system.

9. A communication device according to claim 3, wherein the processor comprises at least the following modes:

- 30 - user mode,
- privileged mode,
- undefined mode, and
- one or more interrupt modes,

35 and that the first operating system being operable at least partly in the undefined mode, the second operating system being operable at least partly in the user mode, and that the interrupt handler being operable in some of the one of more interrupt modes.

10. A communication device according to claim 3, the threads of said first group of threads one thread comprising said second operating system.

5 11. A communication device comprising:

- a first processor to run a first operating system comprising a first group of threads,
- a second processor to run a second operating system comprising a second group of threads,

10 – at least a first user interface and a second user interface, and

- mobile station functions and data processing functions,

wherein said first operating system relates to running of mobile station functions and the second operating system relates to running of data processing functions.

15

12. A communication device according to claim 11, wherein said first user interface relates at least partly to said mobile station functions, and said second user interface relates at least partly to said data processing functions.

20

13. A communication device according to claim 11 including

- means for generating an interrupt to said first processor and said second processor,

25

- means for selecting a thread from said first group of threads and second group of threads to execute as a result of said interrupt and as defined by any applications, said means for selecting including at least one at least partly common interrupt handler for said at least two operating systems, and

30

- means for transmitting interrupt data to the operating system from which the thread was selected including said thread to execute.

14. A communication device according to claim 11, wherein said first user interface is a phone interface, and said second user interface is a personal digital assistant interface.

35

15. A communication device according to claim 11 including means for moving from the execution of the first operating system to the execution

of the second operating system, when no thread of the first operating system is running.

5 16. A communication device according to claim 11 including means for moving from the execution of the second operating system to run the first operating system when an interrupt to the processor affects the running of at least one thread under the first operating system.

10 17. A communication device according to claim 11, wherein the processor comprises at least the following modes:

- user mode,
- privileged mode,
- undefined mode, and
- one or more interrupt modes,

15 and that the first operating system being operable at least partly in the undefined mode, the second operating system being operable at least partly in the user mode, and that the interrupt handler being operable in some of the one of more interrupt modes.

20 18. A communication device according to claim 11, the threads of said first group of threads one thread comprising said second operating system.